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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,556	03/29/2004	Hrvoje Jasa	Jasa 4-5-3	1396

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EXAMINER

CHANG, JOSEPH

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/811,556

Applicant(s)

JASA ET AL.

Examiner

Joseph Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 2/24/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-15 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/29/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Friedman et al., US Patent No. 6,292,065.

Regarding Claims 1, 11, 15, Friedman et al. discloses an apparatus (Figure 1) for generating an oscillating signal, the apparatus comprising: an amplifier (146, 148) having an input terminal and an output terminal (base and collector), wherein the amplifier provides a differential oscillating signal at the output terminal (structure show a differential); and an inductor-capacitor (LC) tank (138,140,144,142, 122,124,126,128,134,136,130,132) coupled between the input terminal and the output terminal (base and collector) of the amplifier (146, 148), wherein the LC tank comprises an inductive element coupled in parallel with a capacitive element (structure shows in parallel), and wherein the capacitive element comprises: a first varactor pair (126,128) coupled to receive a first control voltage (118), wherein the first control voltage i) sets a capacitance of each varactor of the first varactor pair and ii) provides a first level of adjustment to an oscillation frequency of the oscillating signal (the structure functions as recited), and a second varactor pair (122, 124) coupled to receive a second control voltage (120),

wherein the second control voltage i) sets a capacitance of each varactor of the second varactor pair and ii) provides a second level of adjustment to the oscillation frequency of the oscillating signal (the structure functions as recited, see Abstract), wherein the first and second levels of adjustment are different (Col. 4, lines 20-28).

Regarding Claims 6,7,12, 13, Friedman et al. discloses a VCO and PLL to be employed (col. 1 and 2).

Regarding Claim 10, Friedman et al. suggests the circuit is embodied in an integrated circuit (Col. 2, line 9).

Regarding Claims 8, 14, Friedman et al. discloses other pair of varactors (122, 124), each of the varactors receive a corresponding differential control voltage (120) and its functionality.

Regarding Claim 2, Friedman et al. discloses AC coupled capacitive element (134, 136, 130, 132).

Regarding Claims 3, 4, Friedman et al. discloses a set of cross-coupled transistors (cross-coupled by capacitors 144, 142) as a back-to-back inverter (146,148)

Regarding Claim 5, Figure 1 shows each of the first and second pairs of varactors (126,128,122,124) are configured as back-to-back varactors.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman et al. in view of Scoggins.

As discussed above, Friedman et al. discloses a circuit as recited except a filter coupled between a source voltage and the differential output terminal. As would have been well known in the art, filters are used to filter unwanted frequencies such as harmonics of oscillation frequency as shown in Scoggins (C19 of Fig.5).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention to add a filter taught by Scoggins because such a modification would have provided the benefit of filtering unwanted harmonics of oscillation frequency of the circuit of Friedman et al.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cruz et al. discloses a CMOS LC oscillator.

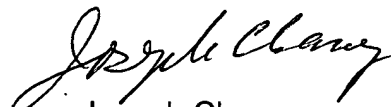
Leenaerts et al discloses a cross-coupled LC oscillator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Chang whose telephone number is 571 272-1759. The examiner can normally be reached on Mon-Fri 0700-1730.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph Chang
Patent Examiner
Art Unit 2817